

Appl. No. 08/759,108
Amdt. Dated: 3/22/04
Reply to Office Action of 11/20/03

REMARKS/ARGUMENTS

Claims 1, 2, and 4-16 are presented for the Examiner's consideration. Claims 9 and 12 are currently amended. Claim 3 has been canceled and Claims 17-32 and 34 have been withdrawn.

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested.

Applicants' attorney thanks the Examiner for her comments and for her thoughtful analysis of the pending application. Claim 9 has been amended to depend from Claim 1 rather than Claim 8. Support for this amendment is found on page 4, line 24; page 5, lines 17-23; page 7, lines 18-19; page 9, lines 6-35; and page 10, lines 1-32. Claim 12 has been amended to indicate "grams per gram of absorbent composition" as the units for Free Swell Value.

By way of the Office Action mailed November 20, 2003, the Examiner rejected Claims 9, 10, and 12 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The rejection to Claims 9, 10 and 12 has been overcome by the amendment to Claims 9 and 12.

By way of the Office Action mailed November 20, 2003, the Examiner rejected Claim 7 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. In particular, the Examiner asserts that it is not "readily ascertainable via any known rules of chemistry that would permit 'copolymers to comprise polymers.'" This rejection is respectfully traversed to the extent that it may apply to the presently presented claims.

Applicants respectfully assert that it is known in the art that copolymers can comprise polymers. Support for this can be found within several definitions for "copolymer." For example, one such definition states that a copolymer is "*a blend of two polymers*" (http://www.nahad.org/ihaq/section_2.htm) (attached). Another definition states that a copolymer

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"consists of two or more dissimilar mer units in combination along its molecular chains"
(<http://www.tulane.edu/~bmitche/book/glossary.html>) (attached). Yet another example defines copolymer as *"a polymer in which the molecules are of two or more different kinds"*
(<http://www.gtweed.com/gt/web/gtbase.nsf/vwContentByKey/N25PHJU5373ELETEN>) (attached). Therefore, from at least these definitions, one of ordinary skill in the art would understand that a copolymer can comprise polymers.

The Examiner has additionally suggested that Applicants insert a hyphen in Claim 7 between "ethylene" and "maleic" in the term "ethylene maleic anhydride copolymer." It is recognized in the art that ethylene maleic anhydride copolymer can be designated either with or without a hyphen. For example, several commercial sources describe ethylene maleic anhydride copolymer without a hyphen, such as Rutherford Chemicals LLC (e.g. <http://www.rutherfordchemicals.com/plastics.html>) (attached). Therefore, the meaning of "ethylene maleic anhydride copolymer" (without a hyphen) would be understood by one of ordinary skill in the art. Applicants appreciate but respectfully decline the Examiner's suggestion to amend Claim 7 to insert a hyphen.

Lastly, by way of the Office Action mailed November 20, 2003, the Examiner has provisionally rejected Claims 1, 2, 4-16 and 33 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over Claims 1-68 of copending Application No. 10/006,781. This rejection is respectfully **traversed** to the extent that it may apply to the presently presented claims. Claims 1-42 and 55-68 of copending Application No. 10/006,781 provide no basis for a double patenting rejection of the obviousness type. Applicants further disagree that Claims 43-54 provide such a basis; however, to progress prosecution and allowance of the present application, Applicants herewith provide a Terminal Disclaimer to overcome the rejection.

For the reasons stated above, it is respectfully submitted that all of the presently presented claims are in form for allowance.

Please charge any prosecutorial fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

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The undersigned may be reached at: 920-721-4405.

Respectfully submitted,

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Section 2 : Definitions

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A multi-ply wall of thermoplastic films and reinforcing fabrics in proportions that give the required physical properties and provide a complete seal. (Note: The film content may be built of tubular films.)

A cover consisting of fabric with an abrasion resistant polymeric coating;

An external helix wire.

compound: the mixture of rubber or plastic and other materials, which are combined to give the desired properties when, used in the manufacture of a product.

compression fitting: see fitting/coupling - Compression

compression set: the deformation which remains in rubber after it has been subjected to and released from a specific compressive stress for a definite period of time at a prescribed temperature. (Compression set measurements are for evaluating creep and stress relaxation properties of rubber.)

concentricity: the uniformity of hose wall thickness as measured in a plane normal to the axis of the hose.

conditioning: the exposure of a specimen under specified conditions, e.g., temperature, humidity, for a specified period of time before testing.

conductive: the ability to transfer electrical potential.

configuration: the combination of fittings on a particular assembly.

control: a product of known characteristics, which is included in a series of tests to provide a basis for evaluation of other products.

controlled flexing: occurs when the hose is being flexed regularly, as in the case of connections to moving components (e.g., platen presses, thermal growth in pipe work).

convoluted: description of hose or innercore having annular or helical ridges formed to enhance flexibility.

convolution/corrugation: the annular or helical flexing member in corrugated or strip wound hose/corrugation.

convolution count: the number of ridges or corrugations per inch of a hose.

copolymer: a blend of two polymers.

core: the inner portion of a hose, usually referring to the material in contact with the medium.

corrosion: the process of material degradation by chemical or electrochemical means.

corrosion resistance: ability of metal components to resist oxidation.

corrugated cover: a ribbed or grooved exterior.

corrugated hose: hose with a carcass fluted, radially or helically, to enhance its flexibility or reduce its weight.

coupler: the female portion of the cam & groove connection with the cam arms.

coupling: a frequently used alternative term for fitting.

a material brought about by combining materials differing in composition or form on a macroscale for the purpose of obtaining specific characteristics and properties. The constituents retain their identity such that they can be physically identified and they exhibit an interface between one another.

Concrete

a composite material consisting of aggregate particles bound together in a solid body by a cement.

Condensation Polymerization

the formation of polymers by an intermolecular reaction involving at least two monomer species, usually with the production of a low molecular weight by-product such as water.

Conduction Band

the lowest-lying electron energy band that is not completely filled with electrons.

Configuration

Conformation

Congruent Transformation

a transformation of one phase to another that does not involve any change in composition.

Coordination Number

the number of atomic or ionic nearest neighbors.

Copolymer

a polymer that consists of two or more dissimilar mer units in combination along its molecular chains.

Corrosion

Deteriorative loss of a metal as a result of dissolution environmental reactions.

Covalent Bond

a primary interatomic bond that is formed by the sharing electrons between neighboring atoms.

Creep

the time-dependent permanent deformation that occurs under stress; for most materials it is important only at elevated temperatures.

Critical Point

Crosslinked Polymer

A polymer in which adjacent linear molecular chains are joined at various positions by covalent bonds.

Crystalline

the state of a solid material characterized by a periodic and repeating three-dimensional arrays of atoms, ions, or molecules.

Crystallinity



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GLOSSARY OF INDUSTRY TERMS

■ Section A: General Definitions

fluid - Any gas or liquid.

gland - A cavity into which a seal is installed, including the groove and mating surface which confine the seal.

seal - Any device that prevents the passage of a fluid.

■ Section B: Seals and Related Components

anti-extrusion ring - Ring installed on the low pressure side of a seal to prevent extrusion into the clearance between the supporting metal parts.

backup ring - See anti-extrusion ring.

composite seal - Seal composed of two or more materials of differing flexibility or hardness, usually bonded together.

double-acting seal - Seal to prevent the passage of fluid from either direction axially.

dynamic seal - Seal designed to prevent leakage between adjacent surfaces with relative motion to each other.

face seal - Device which seals by means of axial contact pressure, usually between surfaces in a plane at right angles to the axis.

gasket - Static seal made from deformable material and compressed between two surfaces.

lip seal - Seal having one or more axially extending flexible members which form a seal on two surfaces.

O-ring seal - Ring of toroidal form, usually of elastomeric material.

O-ring seal, trapped - A type of seal using an O-ring with a special groove forming a dovetail shape.

rectangular section - Ring of rectangular cross-section, usually of elastomeric material.

scraper - A device to keep out dirt or other foreign matter.

single-acting seal - A seal which prevents the passage of fluid from one direction relative to its axis.

static seal - A seal in which there is no relative motion between the adjacent surfaces being sealed.

toroidal seal - See O-ring seal.

U-ring seal - Seal of substantially "U" section having either flat or round base flange with axially extending "lips" toward the pressure to be sealed.

wiper ring - A device to keep out dirt or other foreign matter.

■ Section C: Common Sealing Terms

axial interference - Difference in dimension between the axial width of a seal and the space into which it is installed.

break-away friction - Frictional force required to start a body in motion over a surface.

break-out friction - See break-away friction.

coefficient of friction - The force in the direction of motion required to move a body with respect to another divided by the force normal to the two surfaces.

diametral clearance/interference - Difference between the I.D. (inside diameter) of the seal and the shaft diameter, or between the O.D. (outside diameter) of the seal and the housing diameter.

extrusion - Displacement of part of a seal into the extrusion gap under the action of pressure or thermal expansion.

extrusion gap - The clearance on the low-pressure side between components with relative motion to the seal.



heel - The part of a U-ring adjacent to the extrusion gap on the nonpressure side.
interference load - Pressure loading which arises at the surface to be sealed, causing deformation of the seal material during assembly.
inter-seal pressure - Fluid pressure which may in some circumstances arise between seals fitted to a double-acting piston.
kinetic friction - Minimum frictional force required to maintain a body in motion on a surface.
lip - That part of a U-ring seal which forms the sealing surface.
radial clearance/interference - Difference in dimension between the radial seal and the radial space into which it is installed.
running friction - See kinetic friction.
squeeze - The deformation of a seal caused by the difference in dimension between the seal and the space into which it is installed.
static friction - See break-away friction.
stick-slip - The jerky motion of one surface when it is dragged across another surface.
stiction - The increase in static friction which occurs with time of stationary contact.

■ Section D: Elastomeric Materials

aging - Changes in rubber occurring with the passage of time. Qualification of time is usually necessary, e.g., heat aging, light aging.
aging test, accelerated - Test in which an attempt is made to produce and measure the effects of natural aging in a shorter time.
air trap - Unintentional void in a rubber molding.
antioxidant - Compounding ingredient used to retard deterioration caused by oxidation.
antiozonant - Compounding ingredient used to retard deterioration caused by ozone.
atmospheric or ozone cracking - Cracks produced in the tensioned surface of rubber by exposure to the ozone of the atmosphere.
back-rinding - Defect in which the rubber adjacent to the flash line shrinks back from the molding.
blister - Bubble of air or gas indicated by a protrusion on the surface of a molded part.
bloom - Material which has diffused to the surface of rubber to give a cloudy or discolored appearance. It does not usually impair usefulness.
brittle point - Temperature at which a material breaks under defined conditions of deformation.
butt joint - Joint made with the two ends cut at right angles to the length of material.
chamfer - A beveled or sloping edge (typically 45 degrees) to reduce the sharpness of two faces.
chalking - Formation of a powdery surface condition due to disintegration of surface of rubber or elastomer, caused by weathering or other destructive environments.
composition - Kinds and proportions of ingredients for or in a mix.
compound - Mixture of rubber with compounding ingredients; sometimes referred to as a mix.
compounding ingredients - Material or substance added to a rubber to form a compound.
compression molding - Molding process in which the blank is placed directly in the cavity and compressed to shape by closure of the mold.
compression set - The residual deformation of a material after removal of a compressive stress.
copolymer - A polymer in which the molecules are of two or more different kinds.
creep - A time dependent deformation of a material under load.
curatives - Chemicals such as sulfur which, generally with the application of heat, cause the cross-linkage of polymer molecules, usually termed vulcanization or curing.
cure - Vulcanization; conditions necessary to produce a given state of vulcanization.
cure date - Date when rubber parts were molded.
curing agent - See curatives.
Durometer Gauge - An instrument for measuring the hardness of rubber. Measures the resistance of the rubber surface to deformation by an indenter point.
durometer - A numerical scale of rubber hardness.
elasticity - The tendency of a body to return to its original size and shape after deformation.
elastomer - Macromolecular material which can return rapidly to the approximate original shape from which it has been substantially distorted by a weak stress. Elastic, rubber-like.
elongation - Increase in length caused by a tensile force and expressed numerically as a fraction or percentage of the initial length.
elongation, ultimate - Increase (expressed as a percentage) in original length of a specimen when it reaches its breaking point. See elongation.
flash - Excess material protruding from the surface of a molded part, appearing as a defect.

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Sulfone monomers are the major constituents of our activities in the plastic and polymer industry sector for use in the production of high temperature plastics, such as polyethersulfone, an advanced engineering plastic. Sulfone derivatives, such as potassium diphenyl sulfone sulfonate, a flame retardant for polycarbonate, and a range of sulfonated water dispersible polymers are also manufactured by Rutherford Chemicals. Phenolic anti-oxidant Topanol CA and Topanol CASF for Aqueous Dispersions of PVC plasticizers are available from Rutherford Chemicals as well as ethylene maleic anhydride copolymer. The range of product development capabilities for the plastic and polymer sector includes processes using hydroquinone, ethylene, butylated cresols, trioxide and maleic anhydride. Specific products include:

- 4,4-Dichlorodiphenyl Sulfone
- Ethylene Maleic Anhydride Copolymer
- Zinc Salicylate
- Alkenyl Succinic Anhydrides
- (1,1,3-Tris(2-Methyl-4-Hydroxy-5-tert Butyl Phenyl (Top
- Potassium Diphenyl Sulfone Sulfonate (KSS)
- Succonox

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